



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R03-OAR-2012-0002; FRL-9910-06-Region 3]**

**Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania;  
Regional Haze State Implementation Plan**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is reissuing its final limited approval of the Pennsylvania State Implementation Plan (SIP) to implement the regional haze program for the first planning period through 2018. EPA originally finalized a limited approval of the Pennsylvania regional haze SIP on July 13, 2012. In response to a petition for review of that final action in the United States Court of Appeals for the Third Circuit, EPA successfully moved for a voluntary remand, without vacatur, to more adequately respond to certain public comments. EPA is providing new responses to those comments in this rulemaking notice.

**DATES:** This final rule is effective on [insert date 30 days from date of publication].

**ADDRESSES:** EPA has established a docket for this action under Docket ID Number **EPA-R03-OAR-2012-0002**. All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) website. Although listed in the electronic docket, some information is not publicly available, i.e., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are

available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy for public inspection during normal business hours at the Air Protection Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. Copies of the Commonwealth's submittal are available at the Pennsylvania Department of Environmental Protection, Bureau of Air Quality Control, P.O. Box 8468, 400 Market Street, Harrisburg, Pennsylvania 17105.

**FOR FURTHER INFORMATION CONTACT:** Asrah Khadr, U.S. EPA, Region 3, (215) 814-2071, or by e-mail at [khadr.asrah@epa.gov](mailto:khadr.asrah@epa.gov).

**SUPPLEMENTARY INFORMATION:** Throughout this document, “we,” “us,” and “our” refer to EPA.

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## **I. Background**

On January 26, 2012, EPA proposed a limited approval of the Pennsylvania regional haze SIP as meeting most of the applicable requirements of sections 169A and 169B of the Clean Air Act (CAA) and EPA's implementing regulations at 40 CFR 51.308-309 (Regional Haze Rule) and 40 CFR 51, appendix Y (BART Guidelines). 77 FR 3984. In that same action, EPA proposed to approve the Pennsylvania regional haze SIP as meeting the infrastructure requirements of section

110(a)(2) of the CAA relating to visibility protection for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS) and the 1997 and 2006 fine particulate matter (PM<sub>2.5</sub>) NAAQS. EPA received several adverse comments on its proposed limited approval, including comments from Earthjustice on behalf of Sierra Club, the National Parks Conservation Association, and the Clean Air Council.

In a separate but related action, EPA had previously proposed a limited disapproval of the Pennsylvania regional haze SIP for relying on the Clean Air Interstate Rule (CAIR)<sup>1</sup> to satisfy the best available retrofit technology (BART) requirement for emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) from Pennsylvania's BART-eligible electric generating units (EGUs). 76 FR 82219. In that same action, EPA proposed a Federal Implementation Plan (FIP) that replaced Pennsylvania's reliance on CAIR with reliance on the Cross-State Air Pollution Rule (CSAPR).<sup>2</sup>

On June 7, 2012, EPA finalized the limited disapproval of the Pennsylvania regional haze SIP for relying on CAIR and the FIP relying on CSAPR. 77 FR 33642. On July 13, 2012, EPA finalized the limited approval of the Pennsylvania regional haze SIP and approved the Pennsylvania regional haze SIP as meeting the infrastructure requirements of section 110(a)(2) relating to visibility protection for the 1997 8-hour ozone NAAQS and the 1997 and 2006 PM<sub>2.5</sub> NAAQS. 77 FR 41279.

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<sup>1</sup> CAIR required certain states, including Pennsylvania, to reduce emissions of SO<sub>2</sub> and NO<sub>x</sub> that significantly contribute to downwind nonattainment of the 1997 NAAQS for ozone and PM<sub>2.5</sub>. 70 FR 25162 (May 12, 2005).

<sup>2</sup> EPA promulgated CSAPR (76 FR 48208, August 8, 2011) as a replacement to CAIR in response to the United States Court of Appeals for the District of Columbia Circuit's decision in *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008).

Following these actions, the D.C. Circuit issued a decision in *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012), *cert. granted* 133 U.S. 2,857 (2013), vacating CSAPR and keeping CAIR in place pending EPA's promulgation of a valid replacement rule for CSAPR. EPA believes that the United States Supreme Court's decision in *EME Homer City* will impact the reasoning that formed the basis for EPA's limited disapproval of the Pennsylvania regional haze SIP and expects to propose an appropriate action regarding the limited disapproval upon final resolution of that case.

On September 11, 2012, the aforementioned public interest groups filed a petition for review of EPA's final limited approval of the Pennsylvania regional haze SIP in the Third Circuit. *See Nat'l Parks Conservation Ass'n, et al. v. EPA*, No. 12-3534 (3d Cir. Sept. 11, 2012). In response to the petition, EPA moved the court for a voluntary remand of the final limited approval, without vacatur, so that EPA could provide a more detailed and complete response to some of the petitioners' adverse comments. *See Motion for Voluntary Remand at 3, Nat'l Parks Conservation Ass'n, et al. v. EPA*, No. 12-3534 (3d Cir. Sept. 27, 2013). On October 22, 2013, the court granted EPA's motion for a voluntary remand without vacatur.

## **II. Public Comments and EPA Responses**

EPA received several comments on our January 6, 2012 proposed limited approval of the Pennsylvania regional haze SIP. Commenters included the U.S. Forest Service, the National Park Service, the State of New Jersey Department of Environmental Protection, GenOn Energy, Inc., a private citizen, and Earthjustice (on behalf of Sierra Club, the National Parks Conservation Association, and the Clean Air Council). As EPA explained in the motion for voluntary remand, EPA does not intend to readdress Earthjustice's comments relating to

CAIR/CSAPR issues.<sup>3</sup> Consistent with this representation, EPA does not readdress these comments in this rulemaking notice. In addition to comments from Earthjustice, we are also responding to significant comments from the National Park Service and the State of New Jersey Department of Environmental Protection in this rulemaking notice. EPA believes that the previous responses to all other significant comments were adequate. Please refer to the July 13, 2012 Federal Register rulemaking notice for these comment summaries and responses. 77 FR 41279.

### **BART Determinations for EGUs and non-EGUs**

**Comment:** One commenter raised a number of concerns with Pennsylvania's BART determinations for both EGUs and non-EGUs. Some of these concerns focused on the overall level of detail, structure, analysis, and supporting documentation that Pennsylvania provided in its BART analyses, while other concerns targeted specific technical deficiencies in Pennsylvania's cost-effectiveness estimates and visibility modeling. For EGUs, the commenter criticized Pennsylvania for rejecting fabric filter baghouses, which are generally considered to be the most stringent control technology available for particulate matter (PM) emissions. The commenter went into considerable detail pointing out various shortcomings and errors in Pennsylvania's PM BART analyses that allegedly resulted in grossly inflated costs and underestimated visibility benefits for baghouses. In regards to Pennsylvania's cost calculations, the commenter alleged that: (1) baseline emission estimates were unrealistic and unsupported; (2) supporting data for the cost calculations was not available for public review and comment; (3) lack of data made it impossible to know whether the overnight cost method was followed as required by the Cost Control Manual and BART Guidelines; (4) remaining useful lives of the

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<sup>3</sup> See Motion at 11 n.6.

sources were unsupported; and (5) control efficiencies for the control options analyzed were arbitrarily low and unsupported. To account for these deficiencies, the commenter hired a contractor to recalculate the cost-effectiveness of fabric filter baghouses for two of the EGUs—Homer City Unit 2 and Hatfield’s Ferry Unit 2. The commenter found that the installation of baghouses at these units would be cost-effective at \$2,245 per ton and \$2,745 per ton, respectively.

This commenter also alleged that Pennsylvania’s source-specific BART determinations contained “systemic deficiencies.” These deficiencies include: (1) missing source-specific design information, such as megawatt rating of boilers and exhaust gas flow rates and composition, which prevented accurate costing; (2) improper use of the dollars per deciview (\$/dv) metric as a cutpoint in making BART determinations, contrary to EPA guidance and EPA’s statements in other regional haze actions; (3) lack of clear cost and visibility thresholds for determining when controls will be required or rejected; (4) failure to consider cumulative visibility impacts at all five Class I areas impacted by Pennsylvania sources; and (5) failure to follow the five-step BART process as outlined in the BART Guidelines, including the omission of available control options in Step 1, a lack of feasibility demonstrations in Step 2, a lack of control-effectiveness ranking in Step 3, and a summary dismissal of energy and non-air quality environmental impacts in Step 4.

Another commenter took issue with Pennsylvania’s cost analyses for several non-EGUs, including cement kilns and a pulp and paper mill. This commenter explained that selective non-catalytic reduction (SNCR) has become the norm for controlling NO<sub>x</sub> emissions from cement

kilns year-round, and that EPA should require a minimum of 35 percent NO<sub>x</sub> reduction on a 30-day rolling basis at all kilns. This commenter also disagreed with Pennsylvania's cost analysis for the P.H. Glatfelter Company (Glatfelter) pulp and paper mill. The commenter argued that Pennsylvania overestimated the costs of wet scrubbers by deviating from the Control Cost Manual in several ways. As a result of these deviations, the commenter found that the cost-effectiveness of wet scrubbers was only \$1,204 per ton instead of the \$1,667 per ton estimated by Pennsylvania. In light of this lower cost and the visibility benefits of controls, the commenter concluded that EPA should disapprove Pennsylvania's BART determination for Glatfelter and require a 90 percent efficient wet scrubber.

Finally, multiple commenters raised concerns with Pennsylvania's consideration of the visibility factor for multiple BART-eligible sources. These commenters argued that Pennsylvania failed to consider the cumulative visibility impact at multiple Class I areas when evaluating potential control alternatives and disputed Pennsylvania's decision that such an analysis was unwarranted. The commenters also criticized Pennsylvania's reliance on the \$/dv metric, alleging that the use of such a metric would not be meaningful if it did not take into account the visibility improvement at multiple Class I areas. In addition, the commenters argued that Pennsylvania should have established an objective criteria for determining the acceptability of a given control technology's visibility improvement.

***Response:*** In its regional haze SIP, Pennsylvania identified 34 BART-eligible sources. Consistent with the Mid-Atlantic Northeast Visibility Union (MANE-VU) protocol, Pennsylvania did not limit its BART analyses to those sources that it first determined "might

reasonably be anticipated to cause or contribute to” visibility impairment in a Class I area based on air quality modeling. *See* section 169(b)(2)(A). Rather, Pennsylvania considered the appropriateness of BART controls at each BART-eligible source in Pennsylvania.<sup>4</sup> EPA notes that in most other states, BART reviews were undertaken only for those BART-eligible sources shown to have a greater than 0.5 deciview (dv) impact on a Class I area, the maximum threshold for this screening analysis. Of Pennsylvania’s 34 BART-eligible sources, the regional haze SIP indicates that 26 had visibility impacts of less than 0.5 dv on any Class I area. EPA notes that in most states, the consideration of controls would have ended at this point in the analysis. Pennsylvania, however, considered whether additional controls would be appropriate for all 26 of these BART-eligible sources, regardless of whether or not the source by itself “cause[s] or contribute[s]” to visibility impairment.

Based on EPA’s assessment of the information in Pennsylvania’s BART analyses, EPA has concluded that many of the comments criticizing Pennsylvania’s BART determinations are correct. Because of its approach to BART, Pennsylvania considered the appropriateness of BART controls at a large number of sources. But for almost all of these sources, the Pennsylvania regional haze SIP contains very limited information describing Pennsylvania’s analyses and consideration of the BART factors. Pennsylvania considered various control strategies and developed estimates of the costs of controls, but the cursory information available in the record does not allow for an assessment of how these numbers were derived or whether Pennsylvania’s analyses were reasonably done. Similarly, it is difficult to assess the estimates of the improvements in visibility associated with various controls given the limited information in

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<sup>4</sup> As Pennsylvania relied on CAIR to meet the BART requirements for SO<sub>2</sub> and NO<sub>x</sub>, Pennsylvania was only required to determine whether its BART-eligible EGUs should be required to install BART controls for direct emissions of PM.

the SIP as to the assumptions relied on in the modeling and the summary nature of the results provided. EPA also agrees with the commenters that, in considering the visibility improvement expected from the use of controls, Pennsylvania should have taken into account the visibility impacts at all impacted Class I areas rather than focusing solely on the benefits at the most impacted area. Similarly, EPA agrees with the commenters that Pennsylvania's reliance on the \$/dv metric was flawed for multiple reasons.

Although Pennsylvania should have provided a more thorough and detailed analysis of costs and visibility impacts in its regional haze SIP, the information that Pennsylvania did provide has led EPA to conclude that Pennsylvania's ultimate BART determinations were nevertheless reasonable. First, based on the cost estimates for other BART sources in other states, EPA has concluded that Pennsylvania's cost numbers appear to be generally consistent for such controls, at least for purposes of screening type analyses. Where Pennsylvania estimated the costs of controls to be in the tens of thousands or hundreds of thousands of dollars per ton of pollutant removed, Pennsylvania's conclusions that such controls are not cost-effective seem reasonable, even assuming that the true cost of controls are likely less than what Pennsylvania estimated. EPA agrees with the commenters, however, that many of the controls under consideration were likely cost-effective measures. Unfortunately, where controls were estimated to be more cost-effective, EPA cannot assess the extent to which Pennsylvania's analyses are reasonable estimates for purposes of making a BART determination. When the other key BART factor—visibility—is taken into account, however, an overall picture emerges that supports Pennsylvania's BART determinations.

As noted earlier, Pennsylvania reviewed each of its BART-eligible sources regardless of whether they cause or contribute to visibility impairment under the test in the BART Guidelines. Given the magnitude of the source-specific impacts of these 26 BART-eligible sources, it is not surprising that Pennsylvania concluded that additional controls were not warranted. The visibility benefits of controls for this large subset of Pennsylvania's BART-eligible sources were generally estimated to be only in the hundredths of a deciview. For example, Pennsylvania estimated that SO<sub>2</sub> controls at the two kilns at Lafarge Corporation's Whitehall Plant would result in 0.044 and 0.035 dv of improvement at Brigantine National Wildlife Refuge in New Jersey, the most impacted Class I area. No State has required BART controls where the benefits of control were in this range, and EPA does not consider Pennsylvania's control determinations to be unreasonable given these visibility numbers. Taking into account the visibility impacts at multiple Class I areas would not have affected the reasonableness of Pennsylvania's conclusion that the benefit of controls would have little or no impact on improving visibility given the magnitude of the visibility results shown at the most impacted area.

Of the 26 facilities with visibility impacts less than 0.5 dv at any Class I area, the only source where the BART factors suggest that Pennsylvania reasonably could have come to a different conclusion is the Glatfelter pulp and paper production facility. Unlike the other 26 sources, where either the costs of control were unreasonable or the visibility benefits minimal, or both, Pennsylvania estimated the costs of SO<sub>2</sub> controls at Glatfelter to fall within a range that is generally considered highly cost-effective. Further, these controls would result in 0.219 dv of improvement at Shenandoah National Park, the most impacted Class I area. In its comments, the National Park Service argued that Pennsylvania had overestimated the costs of SO<sub>2</sub> controls, but

regardless of whether the costs were \$1,667 per ton, as estimated by Pennsylvania, or \$1,204 per ton, as estimated by the National Park Service, the costs of installing a venturi scrubber (the SO<sub>2</sub> controls under consideration) falls within a range that is generally considered very reasonable. The National Park Service also provided additional information regarding the visibility improvements to be expected at Brigantine National Wildlife Refuge (0.218 dv) and noted that Dolly Sods and Otter Creek Wilderness Areas had visibility impacts “about half” those at Shenandoah and Brigantine. EPA notes, however, that if Pennsylvania had chosen to screen out sources with impacts of less than 0.5 dv, it would not have been required to undertake a BART analysis for this source at all. For this reason, EPA is not disapproving Pennsylvania’s conclusion that BART controls should not be required at this source.

Of the remaining eight BART-eligible sources, there is no information in the Pennsylvania regional haze SIP regarding the sources’ baseline visibility impacts for four of the sources—Allegheny Energy Supply’s Mitchell Power Station, PPL Generation LLC’s Brunner Island, Sunoco Chemicals’ Frankford Plant, and Sunoco, Inc.’s petroleum refining facility.

Pennsylvania did consider the visibility benefits associated with the installation of controls at these facilities, however, and determined that on balance, the costs of controls were not justified by the expected minimal visibility impacts. At these four facilities, the greatest improvement in visibility was estimated to be 0.076 dv from the installation of selective catalytic reduction (SCR) at the Frankford Plant (at \$40,495 per ton). As the visibility benefits of controls were in the hundredths or thousandths of a deciview, EPA does not consider Pennsylvania’s BART determinations to be unreasonable for these four sources, for the same reasons as explained earlier.

The remaining four BART-eligible sources were each estimated to have visibility impacts above 0.5 dv at a Class I area. These facilities are Lehigh Cement's Evansville Cement Plant (Lehigh/Evansville), PPL Generation LLC's Martins Creek Generating Station (Martins Creek), ConocoPhillips' Trainer Refinery, and Sunoco's Marcus Hook Refinery. Sunoco's Marcus Hook Refinery has shut down, however, and has surrendered its Title V operating permit. Therefore, the question of appropriate BART controls for this source is now moot.

Pennsylvania's regional haze SIP indicates that both Lehigh/Evansville and Martins Creek are each estimated to have impacts of just over 0.6 dv at a Class I area. For Lehigh/Evansville, Pennsylvania found that NO<sub>x</sub> emissions from Kilns 1 and 2 are responsible for the preponderance of the visibility impacts, and considered both the costs and visibility benefits of a range of NO<sub>x</sub> and SO<sub>2</sub> controls. While certain of the controls under consideration were cost-effective, the visibility benefits were between 0.005 and 0.040 dv. Although Pennsylvania considered only the most impacted Class I area, taking into account the visibility impacts at multiple Class I areas would not have changed Pennsylvania's conclusion that no additional controls were justified given the magnitude of impacts at the most impacted area. For Martins Creek, an EGU, Pennsylvania considered only PM controls in light of the fact that it is relying on CAIR as an alternative to BART for SO<sub>2</sub> and NO<sub>x</sub>. Its cost analysis indicated that emission controls for PM were over \$100,000 per ton, while visibility benefits ranged from 0.037 dv at Brigantine to 0.022 dv at Lye Brook. Consequently, EPA believes that Pennsylvania's conclusion that BART was no additional control was reasonable for this source as well.

The last of the remaining BART-eligible sources is ConocoPhillips' Trainer Refinery, which was found to have a 1.104 dv impact at Brigantine. This impact was due largely to emissions from two units, a CO boiler (CO1) and a platformer feed heater (Unit 738). Pennsylvania noted that CO1 is subject to a Federal consent decree that requires the installation of a wet scrubber and enhanced SNCR to address SO<sub>2</sub> and NO<sub>x</sub> emissions, respectively. Pennsylvania also noted that the unit's PM emissions are subject to a new source performance standard (NSPS) PM limit of 0.5 pounds per 1000 pounds of coke burned. Pennsylvania concluded that no additional retrofit controls were feasible for this unit. EPA disagrees with this conclusion. Notably, EPA believes that SCR is likely a feasible control option for NO<sub>x</sub> emissions and should have been analyzed. Nevertheless, it is highly unlikely that Pennsylvania would have found SCR to be cost-effective given that SNCR has already been installed on CO1. Therefore, while Pennsylvania should have performed an analysis of SCR, EPA cannot conclude that Pennsylvania's determination that no further controls are warranted, was unreasonable. For Unit 738, Pennsylvania considered several possible SO<sub>2</sub>, NO<sub>x</sub>, and PM control options. Although Pennsylvania did not provide an adequate explanation as to why certain of the SO<sub>2</sub> and PM controls were not feasible or provide supporting information for its cost analyses, EPA notes that the visibility impacts from Unit 738 for these two pollutants were estimated to be 0.000 dv and 0.001 dv respectively at the most impacted Class I area. Given this, EPA cannot conclude that Pennsylvania was unreasonable in finding that no further SO<sub>2</sub> or PM controls were needed for this unit. The visibility impacts from Unit 738 for NO<sub>x</sub> were estimated to be 0.159 dv. Pennsylvania determined that the most effective control, SCR in combination with ultra low-NO<sub>x</sub> burners, would cost over \$70,000 per ton of NO<sub>x</sub> removed. The less costly but less effective use of ultra low NO<sub>x</sub> burners alone was estimated to cost of \$16,042 per ton, with a visibility benefit of 0.025 dv. Even assuming that

the cost of the burners was significantly less, EPA again does not disagree with Pennsylvania's conclusion that these controls are unwarranted for BART.

EPA has closely reviewed Pennsylvania's BART determinations and concluded that Pennsylvania's ultimate conclusions were not unreasonable, largely based on the expected minimal impacts on visibility, but also taking into account the very high costs of some controls. In other cases, changes in operating status or the existence of enforceable provisions requiring the installation of stringent new controls have convinced EPA that disapproving Pennsylvania's regional haze SIP would result in no meaningful changes to Pennsylvania's ultimate control determinations. As a result, notwithstanding the large number of errors in Pennsylvania's BART determinations, EPA is re-finalizing the limited approval of the Commonwealth's regional haze SIP.

#### **PM BART Emission Limits for EGUs**

**Comment:** One commenter asserted that Pennsylvania improperly set the PM BART emission limits at every EGU source at 0.1 pound per million British thermal units (lb/MMBtu). The commenter explained that 0.1 lb/MMBtu, the emission limit currently included in all of the EGUs' operating permits, is based on 40-year old technology that does not satisfy the minimum statutory requirements of BART. The commenter argued that 0.1 lb/MMBtu is substantially higher than limits accepted as BART elsewhere, as well as limits established as best available control technology (BACT). The commenter asserted that BACT limits are relevant for BART purposes because BACT is also derived by a five-step process and must demonstrate achievable emission reductions. The commenter criticized Pennsylvania for not considering BACT

technologies and associated emission limits in its BART analyses. The commenter then provided a substantial list of PM emission limits that have been established as either BACT or BART by other states and permitting authorities. The commenter explained that these lower limits could be met by both electrostatic precipitators (ESPs) and fabric filter baghouses and concluded that Pennsylvania's failure to adopt such lower limits as PM BART for its EGUs was arbitrary and unlawful. Finally, the commenter pointed out that the BART Guidelines provide that maximum achievable control technology (MACT) for control of hazardous air pollutants should be taken into account in determining BART. The commenter asserted that EPA could not lawfully or rationally approve Pennsylvania's PM BART limits because they are less stringent than the 0.03 lb/MMBtu emission limit that EPA recently established as MACT for existing sources in the final Mercury and Air Toxics Standards (MATS) Rule.

***Response:*** EPA disagrees with the commenter that Pennsylvania's PM BART emission limits for EGUs must be disapproved. EPA acknowledges that BART is defined as "as an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility." 40 CFR 51.301. Consequently, once a state has selected a control technology that represents BART, the state must then complete the BART analysis by selecting an emission limit that represents the emission-reduction capabilities of that control technology. While other BART limits should be examined when determining the effectiveness of the chosen control option, BART ultimately remains a site-specific, case-by-case determination. Moreover, while BACT limits may prove useful in identifying the appropriate emission limit for BART, EPA disagrees that BACT levels of control can automatically be presumed "achievable" for BART

purposes. Whereas BACT applies to new and modified sources, BART only applies to retrofits for older sources. Thus, there may be instances where a source installing BART cannot achieve the level of reductions that would be possible at an entirely new source.

Here, Pennsylvania determined that PM BART for most of the subject-to-BART EGUs<sup>5</sup> was their existing permitted emission limits of 0.1 lb/MMBtu, which can be achieved by the existing ESPs. While EPA agrees with the commenter that Pennsylvania ideally should have examined whether 0.1 lb/MMBtu actually reflects the “degree of reduction achievable” for the particular ESP at each facility, EPA thinks that Pennsylvania’s failure to do so was not fatal in this instance for several reasons. First and most importantly, the impact of tightening the EGUs’ PM emission limits would be minimal from a visibility perspective. As explained in detail earlier, the modeling included in the Pennsylvania regional haze SIP clearly showed that the EGUs’ PM emissions were responsible for a minimal portion of the visibility impairment at the affected Class I areas.

Second, many of the Pennsylvania EGUs have retired or put in motion plans to retire or to convert to cleaner burning fuels since Pennsylvania conducted its BART determinations. For example, in October 2013, First Energy’s Hatfield’s Ferry and Mitchell generating stations were retired. NRG Energy’s Portland generating station will cease combusting coal in June 2014 and

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<sup>5</sup> Instead of setting an output-based PM emission limit for GenOn Energy’s Cheswick generating station, Pennsylvania capped PM emissions at 361 tons per year (tpy). However, as EPA has previously stated, Pennsylvania appears to have set the PM BART limit for Cheswick in error. 77 FR 41279, 41283 (July 13, 2012). Pennsylvania has submitted a SIP revision to EPA that includes a revised PM BART emission limit for Cheswick to address this concern which EPA intends to act upon expeditiously. See Letter to Shawn M. Garvin, Regional Administrator, EPA, from E. Christopher Abruzzo, Secretary, Pennsylvania Department of Environmental Protection (March 25, 2014), *available at* [http://www.dep.state.pa.us/dep/deputate/airwaste/aq/plans/plans/cheswick/Transmittal\\_Letter\\_to\\_EPA.pdf](http://www.dep.state.pa.us/dep/deputate/airwaste/aq/plans/plans/cheswick/Transmittal_Letter_to_EPA.pdf).

plans to retire in early 2015. NRG Energy's New Castle generating station has submitted an application to Pennsylvania to convert to natural gas as a fuel source prior to the MATS compliance deadline of 2015. Moreover, many of the EGUs have recently installed new pollution controls to comply with other CAA requirements that further limit PM emissions. Pennsylvania has issued a plan approval for construction of a baghouse and dry scrubber for Units 1 and 2 at Homer City, which also includes a new PM emission limit of 0.05 lb/MMBtu for each unit. These recent developments have made the stringency of Pennsylvania's PM BART limits a moot issue for many facilities.

Finally, as the commenter notes, the aforementioned MATS Rule will limit PM emissions at each of the Pennsylvania EGUs to 0.03 lb/MMBtu by 2015. While EPA disagrees with the commenter that EPA must disapprove Pennsylvania's PM BART emission limits for EGUs due to the pending implementation of MATS, the fact remains that MATS will imminently supersede BART as the required level of PM control at Pennsylvania's EGUs, largely mooted the issue. Disapproving Pennsylvania's PM BART limits due to MATS would be inappropriate, however, because EPA cannot require states to predict future requirements at the time they are developing their SIPs. EPA proposed MATS on May 13, 2011 (76 FR 24976) and promulgated the final version of MATS on February 16, 2012 (77 FR 9304), well after Pennsylvania developed its regional haze SIP and made the relevant BART determinations. Furthermore, EPA proposed its limited approval of Pennsylvania's regional haze SIP on January 26, 2012, a full three weeks before MATS was finalized. EPA also revised MATS on April 24, 2013 (78 FR 24073). While the BART Guidelines indicate that states may rely on previously issued MACT standards for purposes of BART, they do not require states to revise BART determinations *ex post facto* when

EPA subsequently establishes new MACT standards. For all of these reasons, EPA believes that the limits of 0.1 lb/MMBtu are sufficiently reasonable for PM BART at the Pennsylvania EGUs and can be approved. Where appropriate, however, EPA expects Pennsylvania to revisit the issue in the next regional haze implementation period.

**Comment:** One commenter argued that Pennsylvania's PM BART emission limits are invalid because they are expressed as total filterable PM. The commenter argued that EPA must disapprove the limits and set separate emission limits for filterable coarse particulate matter (PM<sub>10</sub>) and PM<sub>2.5</sub>, as well as condensable PM. Alternatively, EPA could set emission limits for the individual pollutants that form condensable PM, such as sulfuric acid mist.

**Response:** EPA disagrees that Pennsylvania was required to set separate emission limits for filterable PM<sub>10</sub> and PM<sub>2.5</sub> and condensable PM. While the BART Guidelines do instruct states to consider both PM<sub>10</sub> and PM<sub>2.5</sub> when determining whether sources cause or contribute to visibility impairment, the BART Guidelines are silent as to how PM emission limits should be expressed, so long as they are enforceable, continuous, and contain appropriate averaging times, compliance verification procedures, and recordkeeping requirements. In practical terms, the function of a BART emission limit is to ensure that the technology selected as BART, or another technology that is at least as effective, is installed and properly operated. For the EGUs in Pennsylvania, the Commonwealth selected the existing ESPs as BART for filterable PM emissions. An emission limit that restricts total filterable PM will, by definition, restrict emissions of both filterable PM<sub>10</sub> and PM<sub>2.5</sub> because these are subsets of total filterable PM. Thus, EPA believes that it is unnecessary for states to set separate emission limits for filterable PM<sub>10</sub> and PM<sub>2.5</sub> in order to

ensure that the existing ESPs are properly operated and that both coarse and fine particulates are adequately controlled. In regards to condensable PM, when emitted from coal-fired EGUs, these emissions are composed almost entirely of inorganic sulfates that are controlled by scrubbers or dry sorbent injection, not by ESPs or fabric filter baghouses. Consequently, EPA believes that Pennsylvania's reliance on CAIR/CSAPR for SO<sub>2</sub> BART is sufficient to ensure that condensable PM emissions will be controlled.

### **Long-Term Strategy**

**Comment:** Several commenters stated that Pennsylvania, in consultation with other states within MANE-VU, committed to include a low-sulfur fuel strategy as part of its long-term strategy to reduce emissions. These commenters noted that, as of February 2012, Pennsylvania had proposed, but not yet adopted, a low-sulfur fuel rule. Because Pennsylvania's low-sulfur fuel rule had not been finalized at the time of EPA's proposed limited approval of Pennsylvania's regional haze SIP, the commenters concluded that Pennsylvania had not taken all of the measures necessary to obtain its share of the emission reductions needed to meet the reasonable progress goals (RPGs) for downwind Class I areas. One of these commenters recommended that EPA condition its approval of the Pennsylvania regional haze SIP on the implementation of the low-sulfur fuel strategy in Pennsylvania. Another commenter criticized EPA for proposing to substitute SO<sub>2</sub> reductions from EGUs and non-EGUs for reductions from a low-sulfur fuel rule, noting that the substitution resulted in a 5,702 ton shortfall. This commenter explained that because New Jersey relied on reductions from Pennsylvania's low sulfur fuel strategy in demonstrating reasonable progress at Brigantine Wilderness Area, an EPA approval would jeopardize New Jersey's ability to meet its regional haze commitments. A third commenter

expressed concern that the emission reductions Pennsylvania needs to meet the RPGs for downwind Class I areas are not enforceable in the SIP. This commenter argued that finalizing an approval of Pennsylvania's long-term strategy would be inconsistent with other EPA actions that have acknowledged that all reductions modeled in setting the RPGs must be enforceable.

**Response:** EPA disagrees that Pennsylvania has failed to obtain its share of emission reductions that it committed to in the state consultation process. Pennsylvania participated fully in the MANE-VU consultation process, which resulted in a course of action for all participating states to reduce emissions to collectively meet the RPGs in the MANE-VU region.<sup>6</sup> The MANE-VU "Ask" provided the MANE-VU states, including Pennsylvania, with up to ten years "to pursue adoption and implementation of reasonable and cost-effective NO<sub>x</sub> and SO<sub>2</sub> emissions reduction measures, as appropriate and necessary." In its regional haze SIP, Pennsylvania stated that it "will pursue these measures, as appropriate and necessary, and in five years at the time of Pennsylvania's first periodic SIP report, expects to report on progress toward adoption of these measures by 2018." With respect to the low-sulfur fuel strategy, the MANE-VU Ask established two sets of goals, one for the "inner zone" states of the MANE-VU region (Delaware, New Jersey, New York, and Pennsylvania, or portions thereof) and one goal for the "outer zone" states. The "inner zone" goals contained more aggressive compliance schedules and sulfur content limits than the "outer zone" goals. Nevertheless, states in the "inner zone" could choose to comply with the "outer zone" goals if they experienced supply disruption issues, and the "Ask" effectively provided all states until 2018 to complete the implementation of their low-sulfur fuel strategies. Consistent with this approach, Pennsylvania indicated in its regional haze

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<sup>6</sup> See "Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Course of Action within MANE-VU toward Assuring Reasonable Progress" (January 20, 2007), also known as the MANE-VU "Ask," in Appendix M of the Pennsylvania regional haze SIP.

SIP that, “[b]ased on supply concerns, Pennsylvania will pursue a strategy that will not be less stringent than the outer zone strategy and would meet the sulfur content emission limits listed above by 2018.” Therefore, EPA disagrees with the commenter that Pennsylvania was required to finalize its low-sulfur fuel rule by 2012. The agreed-upon timeframe in the “Ask” provided up to ten years for adoption and implementation of the various measures.

After EPA previously finalized the limited approval of the Pennsylvania regional haze SIP, Pennsylvania submitted a SIP revision to EPA that included a low-sulfur fuel rule that met the “outer zone”-strategy requirements. EPA proposed to approve this SIP revision on February 20, 2014. 79 FR 9701. EPA notes that Pennsylvania’s low-sulfur fuel rule does not require that the sulfur content of distillate oil be reduced to 15 parts per million (ppm) by 2018, as anticipated by the MANE-VU “Ask.” However, for “outer zone” states, the implementation of this requirement was dependent upon supply availability.<sup>7</sup> Moreover, as EPA explained in detail in the technical support document (TSD)<sup>8</sup> that accompanied our July 13, 2012 final rule, Pennsylvania has secured an additional 23,051 tons in SO<sub>2</sub> reductions that were not anticipated at the time of the MANE-VU “Ask.” When these reductions are considered in combination with reductions that will result from Pennsylvania’s low-sulfur fuel rule, EPA believes that a 15 ppm limit on distillate oil is no longer “appropriate and necessary” to achieve the goals of the MANE-VU “Ask” during the first planning period ending in 2018. Furthermore, EPA does not believe that Pennsylvania will experience a shortfall in emission reductions or that approval of the Pennsylvania regional haze SIP will prevent New Jersey from making reasonable progress at

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<sup>7</sup> Pennsylvania regional haze SIP, Appendix M (requiring “outer zone” states “to further reduce the sulfur content of distillate oil to 15 ppm by 2018, depending on supply availability”).

<sup>8</sup> See “Technical Support Document (TSD) for the Pennsylvania Regional Haze State Implementation Plan – Mid Atlantic and Northeast Visibility Union (MANE-VU) ‘Asks’ Reasonable Progress Goals” (January 17, 2012).

Brigantine. Finally, while EPA agrees with the third commenter that all reductions should be enforceable in the SIP itself, EPA believes that the proposed approval of Pennsylvania's low-sulfur fuel rule SIP revision largely addresses this concern. Moreover, EPA expects Pennsylvania to review all of its emission reductions in its five-year progress report, at which time the additional reductions highlighted in our TSD can be included in the SIP as enforceable requirements as well. Consequently, EPA believes that the Pennsylvania regional haze SIP includes all measures necessary at this time to obtain its share of the emission reductions needed to meet the RPGs of downwind states and therefore has met the requirements of 40 CFR 51.308(d)(3)(ii).

**Comment:** One commenter asserted that EPA must disapprove the Pennsylvania regional haze SIP because it failed to include a long-term strategy with a detailed retirement discussion. The commenter argued that the Pennsylvania regional haze SIP was inadequate because it contained no discussion of changes in energy and other markets and their likely effect on EGUs and non-EGUs. The commenter concluded that EPA must require a retirement discussion that provides a “realistic picture of future emissions from BART-subject sources.”

**Response:** EPA disagrees with the commenter that the Pennsylvania regional haze SIP must be disapproved for failure to include a retirement discussion in the long-term strategy.

Pennsylvania considered the factors listed in 40 CFR 51.308(d)(3)(v) when developing its long-term strategy, as described in detail in our January 26, 2012 proposal. Pennsylvania included source retirement and replacement schedules as part of the emissions inventory that it used to project future conditions and provide a realistic estimate of future visibility impairing emissions

from the identified sources. At the time that Pennsylvania's analyses were completed, they were based on the best information available. The projected inventories for 2018 account for post-2002 emissions reductions from promulgated and proposed federal, state, local, and site-specific control programs. Pennsylvania developed its long-term strategy in coordination with the MANE-VU, identifying the emissions units within Pennsylvania that have the largest impacts on visibility at the MANE-VU Class I areas, estimating emissions reductions for 2018, based on all controls required under Federal and state regulations for the 2002-2018 period (including BART), and comparing projected visibility improvement with the uniform rate of progress for the MANE-VU Class I areas. Pennsylvania's long-term strategy includes measures needed to achieve its share of emissions reductions agreed upon through the consultation process with Class I area states and includes enforceable emissions limitations, compliance schedules, and other measures necessary to achieve the RPGs established by MANE-VU for the Class I areas.

These projections can be expected to change as additional information regarding future conditions becomes available. For example, new sources may be built, existing sources may shut down or modify production in response to changed economic circumstances, and facilities may change their emissions characteristics as they install control equipment to comply with new rules. To address these situations, the Regional Haze Rule calls for a five-year progress review after submittal of the initial regional haze SIP. *See* 40 CFR 51.308(g). The purpose of this progress review is to assess the effectiveness of emissions management strategies in meeting RPGs and to provide an assessment of whether current implementation strategies are sufficient for the state or affected states to meet their RPGs. If a state concludes, based on its assessment, that the RPGs for a Class I area will not be met, the Regional Haze Rule requires the state to take

appropriate action. *See* 40 CFR 52.308(h). The nature of the appropriate action will depend on the basis for the state's conclusion that the current strategies are insufficient to meet the RPGs. Pennsylvania specifically committed to follow this process in its long-term strategy.<sup>9</sup>

### **III. Summary of Final Action**

EPA is re-finalizing its limited approval of the Pennsylvania regional haze SIP, which was submitted on December 20, 2010 to address regional haze for the first implementation period. EPA is issuing a limited approval of the Pennsylvania regional haze SIP because, overall, the Pennsylvania SIP will be stronger and more protective of the environment with the implementation, Federal approval, and enforceability of its measures than it would without those measures. EPA has already finalized a limited disapproval of the Pennsylvania regional haze SIP in a separate rulemaking. *See* 77 FR 33642.

### **IV. Statutory and Executive Order Reviews**

#### **A. General Requirements**

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

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<sup>9</sup> Pennsylvania also stated in its regional haze SIP that retirement and replacement would be managed in conformance with existing SIP requirements pertaining to new source review.

- is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65

FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

## **B. Submission to Congress and the Comptroller General**

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

## **C. Petitions for Judicial Review**

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by [Insert date 60 days from date of publication of this document in the Federal Register]. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action.

This action finalizing the limited approval of the Pennsylvania Regional Haze SIP may not be challenged later in proceedings to enforce its requirements. *See* section 307(b)(2) of the CAA.

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Dated: April 11, 2014

W. C. Early, Acting  
Regional Administrator,  
Region III.

40 CFR Part 52 is amended as follows:

## **PART 52 – APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS**

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

### **Subpart NN-- Pennsylvania**

2. In § 52.2020, the table in paragraph (e)(1) is amended by revising the entry for “Regional Haze Plan” to read as follows:

#### **§ 52.2020 Identification of plan.**

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(e) \* \* \*

(1) \* \* \*

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
* * * * *				
Regional Haze Plan	Statewide	12/20/10	7/13/12 77 FR 41279	§ 52.2042; Limited Approval.
		12/20/10	[Insert Federal Register publication date] [Insert page number where the document begins]	Reissuing of Limited Approval.
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[FR Doc. 2014-09726 Filed 04/29/2014 at 8:45 am; Publication Date: 04/30/2014]